

REMARKS

Claims 7-24 are all the claims presently pending in the application. Claims 7 and 11 have been amended to more particularly define the invention. Claims 14-24 have been added to claim additional features of the invention.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Applicant gratefully acknowledges that claims 7-13 would be allowable if amended to overcome the alleged informalities. Applicant respectfully submits that the claims have been amended to address the Examiner's concerns and are therefore in condition for immediate allowance.

Claims 7-13 stand rejected upon informalities (e.g., 35 U.S.C. § 112, second paragraph).

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention (e.g., defined by claim 7) is directed to a fabrication method of a liquid crystal display device. The method includes cutting apart a first rectangular substrate from a first raw glass substrate having a surface irregularity such that a longer side direction of the first rectangular substrate is coincident with a drawing direction of the first raw glass substrate, cutting apart a second rectangular substrate from a second raw glass substrate having a surface irregularity such that a longer side direction of the second rectangular substrate becomes orthogonal to a drawing direction of the second raw glass substrate, and arranging the first rectangular substrate in an opposing relation to the second rectangular substrate with a gap formed therebetween to accept a liquid crystal layer and with the longer sides of the first and second rectangular substrates being in the same direction.

Conventional liquid crystal display devices are formed such that surface irregularities (e.g., waviness) in the thin-film transistor (TFT) substrate are aligned with surface irregularities in the color filter (CF) substrate (Application at Figure 3B). However, this

results in the thicker and thinner portions of the substrates overlapping, respectively, such that there is a difference in pressure applied between these portions during fabrication. This results in a variation in the gap between the TFT substrate and the CF substrate which causes a variation of display (Application at page 3, line 15-page 5, line 10).

The claimed invention, on the other hand, the longer side direction of the first rectangular substrate is coincident with a drawing direction of the first raw glass substrate, and a longer side direction of the second rectangular substrate becomes orthogonal to a drawing direction of the second raw glass substrate. Thus, by arranging the first rectangular substrate in an opposing relation to the second rectangular substrate with the longer sides of the first and second rectangular substrates being in the same direction, the claimed invention is able to arrange the surface irregularity of the first rectangular substrate orthogonally to the surface irregularity of the second rectangular substrate (Application at Figure 6B; page 6, lines 5-17). Hence, the claimed invention results in a smaller variation in the gap between the substrates which reduces a variation of display (Application at page 18, line 21-page 19, line 10).

II. THE 35 USC §112, SECOND PARAGRAPH REJECTION

Claims 7-13 stand rejected under 35 U.S.C. §112, second paragraph. However, Applicant respectfully submits that these claims are clear and not indefinite.

Specifically, Applicant notes that the features of claims 7 and 11 have been amended to recite “surface irregularity”. This term is very well known in the art and clearly describes the irregularities illustrated, for example, in Figures 4B and 5C.

In addition, submitted herewith is a portion of a glossary published online (e.g., at www.idema.org) by the International Disk Drive Equipment and Materials Association (IDEMA), which is in a related art to that of the claimed invention. This glossary defines “draw lines” as “[a] surface irregularity or waviness caused during glass fabrication”. Therefore, the term “surface irregularity” is clearly disclosed and described in the present Application (e.g., at Figures 4B and 5C).

Further, Applicant notes that claims 12-13 have been amended to recite “wherein a distance between a position of greatest separation between said first rectangular substrate and said second rectangular substrate and a position of smallest separation between said first

rectangular substrate and said second rectangular substrate is increased. This is clearly described in the Application at page 11, lines 16-27).

Further, Applicant notes that Figure 7B in the Application clearly illustrates electrodes and switching elements formed on the first rectangular substrate (e.g., TFT substrate 100), and a color filter layer formed on the second rectangular substrate (e.g., CF substrate 200).

Applicant would point out that while some figures in the present Application illustrate the surface irregularity (e.g., “waviness”) of a substrate surface as appearing large relative to the substrate size, this is only to illustrate an example of a shape of the surface irregularity and is not intended to suggest an actual size of the surface irregularity. Indeed, this is clearly indicated in the present Application which states, for example, that in Figures 1B and 2B a directional dependency of the substrate thickness is “exaggeratedly shown” (Application at page 3, lines 15-26).

Indeed, one of ordinary skill in the art would readily understand that the a “surface irregularity” formed in a glass substrate may be small relative to the size of the substrate. In other words, one of ordinary skill in the art would not expect that the view of Figure 7B would illustrate surface irregularities on the substrate surfaces. Therefore, the drawings in the present Application clearly illustrate the features claimed herein.

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

III. FORMAL MATTERS AND CONCLUSION

The Examiner objects to the drawings as not illustrating the features of claim 11. However, the Examiner’s objection is misplaced. Indeed, Applicant notes that Figure 7B in the Application clearly illustrates electrodes and switching elements formed on the first rectangular substrate (e.g., TFT substrate 100), and a color filter layer formed on the second rectangular substrate (e.g., CF substrate 200).

As noted above, the figures in the present Application are not intended to suggest an actual size of the surface irregularity. Indeed, this is clearly indicated in the present Application which states, for example, that in Figures 1B and 2B a directional dependency of the substrate thickness is “exaggeratedly shown” (Application at page 3, lines 15-26).

Indeed, one of ordinary skill in the art would readily understand that the a “surface

irregularity” formed in a glass substrate may be small relative to the size of the substrate. In other words, one of ordinary skill in the art would not expect that the view of Figure 7B would illustrate surface irregularities one the substrate surfaces.

Therefore, the drawings in the present Application clearly illustrate the features claimed herein. Therefore, the Examiner is respectfully requested to withdraw this objection.

In view of the foregoing, Applicant submits that claims 7-24, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney’s Deposit Account No. 50-0481.

Respectfully Submitted,

Date: _____

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